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**IN THE CLAIMS:**

Cancel claims 1-10.

Amend claims 13 and 15 as follows:

11. A method of producing high density arrays of target substances comprising sectioning a bundle of target-strands;  
where the target-strands comprise the target substances;  
where the location of each target substance within the bundle is noted in a database;  
and,  
where the sectioning results in a high density array.
12. The method of claim 11, where the sectioning is performed with a cutting device selected from the group consisting of a microtome, laser, saw, and hot wire.
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13. (Amended) The method of claim 11, where the bundle sectioned comprises a target-strand selected from the group consisting of a cast rod of target substance, a target substance absorbed onto a glass fiber, a target substance absorbed onto a silk thread, a target substance attached to a polymer fiber, a target substance embedded in a porous rod, a target substance coated on a metal wire, a target substance contained within a matrix of gelatin, a line of a target substance drawn on a glass slide, a line of a target substance drawn on a membrane, and a target substance attached to the inside of a tube.
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14. The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of DNA, RNA, peptides, proteins, glycoproteins, lipoproteins, carbohydrates, lipids and immunoglobulins.
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15. (Amended) The method of claim 11, where the sectioning is performed such that the resultant high density array has a thickness of from about 0.1  $\mu\text{m}$  to about 1.0 mm.
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16. The method of claim 11, where the sectioning is performed such that the resultant high density array has a thickness of greater than 50  $\mu\text{m}$ .
17. The method of claim 11, further including stabilizing the bundle.
18. The method of claim 17, where the stabilizing step is performed by embedding the bundle in a material selected from the group consisting of epoxy, polypropylene and polystyrene.

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19. The method of claim 11, further including incorporating a material other than the target-strands into the bundle.

20. The method of claim 19, where the material is a microbial inhibitor. |

Add new claims:

21. The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of zinc, sulfur and gold.

22. The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of viruses, chromosomes, mitochondria, prokaryotic cells, archaeobacteria and eukaryotic cells.

23. The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of ceramics, glasses, plastics, polymeric materials, wood, fabric and concrete.

24. The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of semiconductors and superconductors

25. The method of claim 19, where the material is an antioxidant.

26. The method of claim 19, where the material is a nonfluorescent counterstain.

27. The method of claim 19, where the material is a reflecting substance.

28. The method of claim 19, where the material is a secondary enzyme.

29. A method of interrogating a high density array, comprising producing a high density array according to the method of claim 11 and then interrogating the array.

30. The method of claim 29, where interrogating comprises visual inspection.

31. The method of claim 29, where interrogating comprises chemical deposition.

32. The method of claim 29, where interrogating comprises electrical probing.

33. The method of claim 29, where interrogating comprises magnetic sensing.

34. The method of claim 29, where interrogating comprises mechanical sensing.